

CLAIMS

1. A stackable module for a processor system, the module comprising:  
a support plate having a topside and an underside;  
a set of topside circuit components mounted on the topside of the support plate;  
a topside connector mounted to the topside of the support plate;  
an underside connector mounted to the underside of the support plate; and  
a first set of conductive tracks connected directly between the topside connector  
and the underside connector and a second set of conductive tracks connecting the topside  
connector to the topside circuit components, the underside connector and the topside connector  
being engageable with respective underside connectors and topside connectors of other modules,  
the conductive tracks arranged to convey transport stream data and transport stream control  
signals between modules in a stack.
2. The stackable module of claim 1 wherein each of the topside and  
underside connectors comprise a set of pins for carrying memory access signals to enable a  
module to function as an external memory interface.
3. The stackable module of claim 1 wherein the topside connector is a  
receptacle and the underside connector is a plug.
4. The stackable module of claim 1 wherein the support plate comprises at  
least one through-hole for receiving a support pillar.
5. The stackable module of claim 4 wherein a support pillar is provided on  
the support plate at a location so as to pass through a through-hole of an upper module in a stack  
of modules.

6. The stackable module of claim 1, comprising a connector space defining component that extends from the support plate by a distance calculated to define the minimum spacing between modules in a stack.

7. The stackable module of claim 1 wherein the circuit components constitute a transport stream generating device that generates transport stream data and transport stream control signals.

8. The stackable module of claim 1 wherein said circuit components constitute a device that acts on transport stream data and transport stream control signals.

9. The stackable module of claim 8, comprising a multiplexor for selectively selecting transport stream data from a lower module in the stack and an upper module in the stack for acting on by said device.

10. The stackable module of claim 1 wherein the circuit component constitutes a device that does not utilize transport stream data and transport stream control signals, said transport stream data and control signals being supplied via said topside and underside connectors directly to another module in a stack of modules.

11. A stack of modules in a processor system, said stack comprising:  
a main board having an interface connector and a set of main board components,  
the interface connector providing a set of pins for conveying transport stream data and transport stream control signals;

at least one module comprising a support plate with an underside connector mounted to an underside of said support plate and a topside connector mounted to a topside of said support plate, the underside connector being connected to the interface connector of the main board for conveying transport stream data and transport stream control signals from the at least one module to the interface connector of the main board.

12. A stack of modules in a processor system, said stack comprising:  
a main board having an interface connector and a set of main board components,  
the interface connector providing a set of pins for conveying transport stream data and transport  
stream control signals;

at least one module comprising:

a support plate having a topside and an underside;

a set of topside circuit components mounted on the topside of the support plate;

a topside connector mounted to the topside of the support plate;

an underside connector mounted to the underside of the support plate and  
connected to the interface connector of the main board; and

a first set of conductive racks connected directly between the topside connector  
and the underside connector and a second set of conductive tracks connecting the topside  
component to the topside circuit component, the underside connector and the topside connector  
being engaged with respective underside connectors and topside connectors of other modules in  
the stack, the conductive tracks arranged to convey transport stream data and transport stream  
control signals between modules in a stack.

13. The stack of modules of claim 11 wherein the support plate of said at least  
one module comprises a topside having a set of topside circuit components.

14. The stack of modules of claim 13 wherein the circuit components  
constitute a transport stream generating device that generates transport stream data and transport  
stream control signals.

15. The stackable module of claim 13 wherein said circuit components  
comprise a device that acts on transport stream data and transport stream control signals.

16. The stack of modules of claim 13 wherein said at least one module comprises a multiplexer for selectively selecting transport stream data from a lower module in the stack and an upper module in the stack for acting on by said device.

17. The stack of modules of claim 13 wherein the circuit components comprise a device that does not utilize transport stream data and transport stream control signals, said transport stream data and control signals being supplied via said topside and underside connectors directly to another module in the stack of modules.

18. A stack of modules in a processor system, said stack comprising:

a main board having an interface connector and a set of main board components, the interface connector providing a set of pins for conveying transport stream data and transport stream control signals; and

a plurality of modules, each module comprising a support plate with an underside connector mounted to an underside of said support plate and a topside connector mounted to a topside of said support plate, the underside connector of a lower one of said modules connected to the interface connector of the main board for conveying transport stream data and transport stream control signals from said lower module to the interface connector of the main board.

19. A stackable printed circuit board configured for stacking on a motherboard and with other stackable printed circuit boards, comprising:

a printed circuit board having mutually parallel opposing planar top and bottom surfaces having conductive surface tracks formed on each of the top and bottom surfaces and conductive pass-through tracks extending through the printed circuit board;

at least one topside connector mounted on the top surface of the printed circuit board and having a plurality of pins electrically coupled to the conductive surface tracks on the top surface;

at least one bottom side connector mounted on the bottom surface of the printed circuit board and having a plurality of pins electrically coupled to the conductive surface tracks

on the bottom surface, and further electrically coupled to the at least one topside connector via the conductive pass-through tracks;

the at least one topside connector and the at least one bottom side connector are adapted to be engageable with respective bottom side connectors and topside connectors of other stackable printed circuit boards;

at least one support pillar extending from the top surface of the printed circuit board; and

at least one through-hole formed in the printed circuit board and adapted to receive a support pillar from another stackable printed circuit board.

20. A stackable printed circuit board configured for stacking on a motherboard and with other stackable printed circuit boards, comprising:

a printed circuit board having mutually parallel opposing planar top and bottom surfaces having conductive surface tracks formed on each of the top and bottom surfaces and conductive pass-through tracks extending through the printed circuit board;

at least one topside connector mounted on the top surface of the printed circuit board and having a plurality of pins electrically coupled to the conductive surface tracks on the top surface;

at least one bottom side connector mounted on the bottom surface of the printed circuit board and having a plurality of pins electrically coupled to the conductive surface tracks on the bottom surface, and further electrically coupled to the at least one topside connector via the conductive pass-through tracks;

the at least one topside connector and the at least one bottom side connector are adapted to be engageable with respective bottom side connectors and topside connectors of other stackable printed circuit boards;

at least one support pillar extending from the top surface of the printed circuit board;

at least one through-hole formed in the printed circuit board and adapted to receive a support pillar from another stackable printed circuit board;

at least one component mounted on the top surface of the printed circuit board and electrically coupled to the conductive surface tracks on the top surface of the printed circuit board; and

a spacer on the top surface of the printed circuit board and extending above the component to provide clearance between the component and other stackable printed circuit boards.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100